

REMARKS

Reconsideration of the above-identified application in view of the foregoing amendments and following remarks is respectfully requested.

A. Status of the Claims and Explanation of Amendments

At the outset, Applicant thanks the Examiner for the indication of allowability of claims 5-8 and 14-17. [05/25/2007 Office Action at 10-11]. Claims 5 and 14 were objected to solely as being dependent upon rejected base claims. [05/25/2007 Office Action at 10]. Claims 6-8 and 15-17 were found to be novel over the prior art, but were rejected under § 112, second paragraph (discussed below). [05/25/2007 Office Action at 11].

By this paper, the specification is amended to delete the term “warning” and to recite the term “warming” at page 5, line 9. This amendment is believed to resolve the objection to the specification of the May 25 Office Action at page 2.

Claims 1-19 were pending. By this paper, claims 1, 2, 6, 10, 11, 15 and 17-19 are amended and new claims 20 and 21 are added herein. Claim 1 is amended to delete “wherein,” “the control device,” “drives” and “drives” and to recite “that controls the first and second heating devices, wherein the control device is configured to,” “drive,” “without driving the second heating device,” and “drive.” Similar amendments are made to claims 10 and 19. Claim 2 is amended to delete “wherein,” “heated by the second heating device reaches,” and “the control device causes the part of the fuel battery to start generating power.” Similar amendments are made to claim 11. Claim 6 is amended to delete “having a better” and to recite “the,” “of which is better,” and “that of.” Similar amendments are made to claim 15. Claim 10 is amended to delete “warning” and to recite “warming” and “only.” Similar amendments are made to claim 18. Claim 17 is amended to recite “.”

Support for new claims 20 and 21 may be found throughout the application as originally filed, including for example at page 9, lines 25-26 (claim 20), and page 14, lines 1-8 and 23-28 (claim 21).

No new matter will be added to this application by entry of these amendments. Entry of these amendments is respectfully requested.

The pending office action objected to claims 2 and 10-18. [05/25/2007 Office Action at 2]. Claim 2 was “objected to under 37 C.F.R. 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.” [05/25/2007 Office Action at 2]. Claims 10 and 18 were objected to because they recited a “warning device,” instead of a “warming device,” and claim 17 was objected because it was missing a period at the end of the claim. [05/25/2007 Office Action at 2-3]. The above described amendments are believed to resolve these objections to claims 2 and 10-18. Withdrawal of the objections is respectfully requested.

As to matters of form, the office action rejected claims 6-8 and 15-17 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. [05/25/2007 Office Action at 3]. The above described amendments are believed to define with reasonable clarity the patentable subject matter and would readily be understood by a person of ordinary skill in the art. Applicant respectfully requests withdrawal of the rejection of the claims under § 112, second paragraph.

As to the merits, the office action rejected claims 1-3 and 9 under 35 U.S.C. § 103(a) as allegedly being unpatentable over French Patent Publication No. 2813994 to Gerard et al. (“Gerard”) in view of Japanese Patent Publication No. 11-301285 to Kawamura

(“Kawamura”). [05/25/2007 Office Action at 4]. The office action also rejected claims 1-4, 9-13, 18 and 19 under § 103(a) as allegedly being unpatentable over Gerard in view of U.S. Patent No. 6,293,388 to Young (“Young”). [05/25/2007 Office Action at 7].

B. Claims 1-4, 6-13 and 15-21 are Patentably Distinct from the Cited References

The rejections of claims 1-4, 6-13 and 15-21 are respectfully traversed. As explained more fully below, the requirements for such rejections are not met because the cited references do not teach, disclose or suggest the “control device” of Applicant’s claim 1.

Applicant’s claim 1 recites:

A warming device for fuel cell system having a fuel battery and a power storage device, comprising:

a first heating device that heats the power storage device;

a second heating device that heats the fuel battery by using electricity of the power storage device; and

a control device that controls the first and second heating devices, wherein the control device is configured to, in warming of the fuel cell system, first drive the first heating device to heat the power storage device to a preset temperature without driving the second heating device, and then drive the second heating device.

The office action concedes that Gerard does not teach “[a] heating device to heat the power storage or of [sic] the control device connected to the batter heating device” as recited in claim 1. [05/25/2007 Office Action at 5]. Gerard discloses a cooling circuit for cooling a fuel battery. [Gerard, Abstract]. The cooling circuit includes a heater that is controlled by a temperature sensor, such that when the temperature detected by the temperature sensor is close to a water freezing temperature, the heater heats the water in the cooling circuit by using electricity of a power storage device. [Gerard, Abstract]. Thus, the water in the cooling circuit is prevented

from freezing. [Gerard, Abstract]. However, Gerard does not disclose a heater for heating a battery. Accordingly, Applicant's own review of Gerard confirms that it does not teach, disclose or suggests "a first heating device that heats the power storage device" or "a control device that controls the first and second heating devices, wherein the control device is configured to, in warming of the fuel cell system, first drive the first heating device to heat the power storage device to a preset temperature without driving the second heating device, and then drive the second heating device" as recited in Applicant's claim 1.

However, the office action asserts that Kawamura and Young both teach "heating batteries 13 in a vehicle system using an auxiliary power source" and "[g]iven that [Gerard, Kawamura and Young] are drawn to power sources in a vehicle and both further recognize the effects of temperature on the power system performance . . . it would have been obvious to one of ordinary skill in the art to modify the teachings [Gerard] in view of [Kawamura or Young] to get the "warming device" of Applicant's claim 1. [05/25/2007 Office Action at 5-6, 8-9].

Kawamura is directed to a simplified arrangement of wiring that is required to heat a plurality of batteries. [Kawamura, ¶ 0005]. In pertinent part, Kawamura discloses a heater for heating a battery by using a power source when the temperature of the battery is low. [Kawamura, Abstract]. However, Kawamura does not disclose a second heater or driving one heater before driving the other. Thus, Kawamura does not teach, disclose or suggest "a control device that controls the first and second heating devices, wherein the control device is configured to, in warming of the fuel cell system, first drive the first heating device to heat the power storage device to a preset temperature without driving the second heating device, and then drive the second heating device" as recited in Applicant's claim 1.

Further, Young is directed to a control circuit and method for controlling the heating of a battery. [Young, col. 1, lines 34-35]. The control circuit includes a switching device and a controller. [Young, col. 2, lines 51-55]. The switching device, which may be a transistor or a relay, selectively shorts the battery to generate heat due to the internal resistance of the battery. [Young, col. 2, lines 56-63]. The controller generates a control signal to control the switching device, such that once the temperature of the battery reaches a predetermined temperature, the stitching device no longer stops shorting the battery. [Young, col. 2, line 64, to col. 3, line 15]. However, Young does not mention a second heater or driving one heater before driving the other. Thus, Young does not teach, disclose or suggest “a control device that controls the first and second heating devices, wherein the control device is configured to, in warming of the fuel cell system, first drive the first heating device to heat the power storage device to a preset temperature without driving the second heating device, and then drive the second heating device” as recited in Applicant’s claim 1.

Accordingly, as Applicant cannot find the “control device” recited in claim 1 in Gerard, Kawamura or Young (singly or in combination) at least independent claim 1 and its dependent claims 2-8, 20 and 21 are respectfully asserted to be in condition for allowance. For at least similar reasons, independent claims 10, 18, 19 and their dependent claims 11-17 are respectfully asserted to be in condition for allowance.

Applicant has chosen in the interest of expediting prosecution of this patent application to distinguish the cited documents from the pending claims as set forth above. These statements should not be regarded in any way as admissions that the cited documents are, in fact, prior art. Likewise, Applicant has chosen not to swear behind the documents cited by the office action or to otherwise submit evidence to traverse the rejection at this time. Applicant, however,

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reserves the right, as provided by 37 C.F.R. §§ 1.131 and 1.132, to do so in the future as appropriate. Finally, Applicant has not specifically addressed the rejections of the dependent claims. Applicant respectfully submits that the independent claims, from which they depend, are in condition for allowance as set forth above. Accordingly, the dependent claims also are in condition for allowance. Applicant, however, reserves the right to address such rejections of the dependent claims in the future as appropriate.

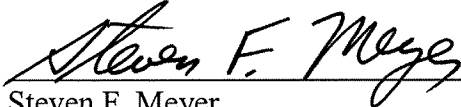
CONCLUSION

For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

THE COMMISSIONER IS HEREBY AUTHORIZED TO CHARGE ANY ADDITIONAL FEES WHICH MAY BE REQUIRED FOR THE TIMELY CONSIDERATION OF THIS AMENDMENT UNDER 37 C.F.R. §§ 1.16 AND 1.17, OR CREDIT ANY OVERPAYMENT TO DEPOSIT ACCOUNT NO. 13-4500, ORDER NO. 5000-5163.

Respectfully submitted,
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